

History of the Pacific Emergency Health Initiative (PEHI)

Abstract: At the February 2000 meeting of the Pacific Island Health Officers Association (PIHOA), the Centers for Disease Control and Prevention (CDC) proposed a regional strategy for promotion of emergency environmental health in the Pacific. This CDC Pacific Emergency Health Initiative (PEHI) called for a pro-active partnership of governmental institutions, international agencies, Pacific nations, the Pacific Basin Medical Association and PIHOA. The mission of PEHI is to "strengthen the capacity for emergency health preparedness and response among Pacific island nations". This article describes the history and development of PEHI and offers insight into future efforts.

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Introduction

Hazards and vulnerability

The Pacific basin is one of the most disaster-prone regions of the entire world.¹ (IFRCRC 98 world report). Despite this risk, Pacific public health and medical sectors are poorly prepared to respond to these national health emergencies.²

The 1998 Institute of Medicine Report, "Partnerships for Health in the Pacific", identified serious deficiencies among many Pacific island nations specific to the quality and accessibility of healthcare, medical workforce training and availability, as well as health facility maintenance and management.³

In 1999, the Republic of Palau began a campaign to upgrade emergency health services and planning for national health emergencies. The Palau Minister of Health, Masao Useda, "With a view to integrating emergency medical services (EMS) at Belau national hospital into the overall national disaster plan", contacted the Centers for Disease Control and Prevention (CDC) National Center for Environmental Health to request technical assistance.

The mission of PEHI is to "strengthen the capacity for emergency health preparedness and response among Pacific island nations".

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In February 2000, CDC performed a comprehensive public health and medical vulnerability assessment in the Republic of Palau. As a result, CDC delivered a report to the Palau Ministry of Health that offered six recommendations for emergency health management in Pacific island states:

- 1) Promote the education and training of disaster responders
- 2) Identify and maintain essential equipment & supplies and critical infrastructure
- 3) Extend disaster management to include a community-based model
- 4) Develop disaster prevention and mitigation strategies
- 5) Improve coordination within and between the Pacific jurisdictions and the U. S.
- 6) Improve emergency operations plans among the public health and medical sectors

The CDC Pacific Emergency Health Initiative

Background

At the February 2000 meeting of the Pacific Island Health Officers Association (PIHOA), CDC proposed a regional strategy for promotion of emergency environmental health in the Pacific. This CDC Pacific Emergency Health Initiative (PEHI) called for a pro-active partnership of governmental institutions, international agencies, Pacific nations, the Pacific Basin Medical Association and PIHOA. CDC also proposed a pilot project for the capacity building in for emergency medical services and public health disaster planning.

CDC PEHI mission and objectives:

The mission of PEHI is to "strengthen the capacity for emergency health preparedness and response among Pacific island nations". The objectives of PEHI are:

1. To measure and assess emergency preparedness among developing health and medical systems of Pacific island nations.

Table 1. Phases for implementation of PEHI

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|-------------------------|--|
| Northern pilot | Vulnerability assessment of public health & medical sectors Establish a pilot regional training and plan development center Training & plan development for 8 nations of the Micronesia sub-region Establish Pacific-wide information and communication network |
| Southern extension | Vulnerability assessment of public health & medical sectors Establish a second regional training and plan development center Training & plan development for 14 nations of the Polynesia-Melanesia sub-regions |
| Regional sustainability | Fiscal: Establish a host-donor consortium fund Institutional: Training centers based in academic institutions Cultural: Training center utilizes indigenous trainers |

- To facilitate the development of emergency operations plans among health sectors of Pacific island nations.
- To develop a sustainable indigenous source for emergency health education in Pacific island nations.

PEHI strategy and methods

The strategy for implementation of PEHI program activities is based upon a scalable model for geographical expansion of assessment, training and technical assistance. The goal is sustainable development of indigenous capacity for maintaining emergency health in the Pacific. The vision is for a PEHI partnership that includes all 22 Pacific island members of the South Pacific Forum.

PEHI program activities are planned to involve three phases of capacity building: 1) a northern pilot; 2) southern extension; and 3) region-wide sustainability. Each of the first two phases will include a series of baseline vulnerability and needs assessments, to be followed by establishment of a regional training and ongoing technical assistance. (See table 1).

In 2000, CDC initiated three activities directed towards achieving the PEHI objectives. These included: 1) vulnerability assessment; 2) education and training; and 3) technical assistance. (See table 2)

Vulnerability assessment

The vulnerability of a population is a measure of its susceptibility to disasters. A baseline vulnerability assessment is therefore necessary for accurate guidance of any

subsequent intervention. The CDC PEHI vulnerability assessment includes two main perspectives: health and engineering.

The health component of the PEHI vulnerability assessment is a retrospective review of national-level public health and institutional-level hospital emergency operations plans by way of technical review, in-country interviews and onsite observations of operations. Positive response rates are calculated according to presence of emergency operational planning concepts and categories of public health emergency support functions.

The engineering component of the PEHI vulnerability assessment involves an objective assessment of public health and hospital infrastructure. This component evaluates public health and medical facilities for ability to withstand common disaster hazards of wind, fire, and flood. It also evaluates the condition of public health and medical infrastructure, including facility structures and the maintenance and support systems for environmental control, water, sewer and power.

During 2000, CDC performed PEHI public health & medical vulnerability assessments in a total of five Pacific nations. These assessments were performed in partnerships with the US Department of Defense, Army Civil Affairs Brigade and the Center of Excellence for Disaster Management and Humanitarian Assistance (for Cook Islands and Samoa) and the US Department of Health and Human Services: Office of Pacific Affairs (OPA); Human Resources Services Administration (HRSA); and Department of Interior, Office of Insular Affairs (DOI), (for American Samoa, Marshall Islands, and Palau). In June 2001, CDC published this pilot study of

Table 2. PEHI program activities

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|--------------------------|---|
| Vulnerability assessment | Preparedness assessment of hospital and public health emergency plans Mitigation assessment of public health and hospital infrastructure |
| Education and training | First aid and emergency medical care Public health and hospital emergency preparedness and response |
| Technical assistance | PEHI-NET - a secure, internet-based information and communication network available free of charge to the health ministries of 22 Pacific island nations PEHI-HELP - rapid response emergency consultation available to all Pacific island nations |

emergency preparedness in five Pacific nations.³ CDC also established a secure, internet-accessible "PEHI-NET" database for housing these and future vulnerability assessments.

Education and training

Most of the Pacific public health and medical staff that would most likely serve as emergency responders have not received adequate training regarding key methods of disaster management. These personnel, in general, have little experience with major catastrophic health events. Training is broadly lacking in regards to the following core subjects: 1) direction & control; 2) disaster communications; 3) general principles of disaster management; 4) mass casualty management; 5) hazardous materials response; and 6) emergency operations planning.

In October 2000, the CDC, in association with OPA and Dol, sponsored a workshop in the Republic of Palau. The goal of this workshop was to develop an operational plan for a pilot project that would establish a regional center for emergency health training and education for Pacific island nations. Out of these meetings came a plan for founding of the Pacific Center for Emergency Health at the Palau Community College in Koror, Palau. This center would provide a regional focus for training and education of the health & medical workforce with respect to emergency public health and emergency medical services.

The center would promote the development of Pacific medical and public health systems and serve as an economical resource for training of trainers from throughout the Pacific basin.

In September 2001, the Republic of Palau, the CDC and the Palau Community College hosted an opening ceremony for the Palau Center for Emergency Health. During these two weeks of workshops, over 65 attendees from eleven nations acquired practical knowledge and hands-on skills involving public health and medical emergencies. Pacific island participants included American Samoa, Federated States of Micronesia, Yap state, Truk state, Kosrae state, Pohnpei state, Kiribati, Guam, Marshall Islands, Commonwealth of Northern Marianas Islands and Palau. Other organizations also in attendance included: the US Department of Agriculture Graduate School; the Secretariat of the Pacific Community (SPC); the South Pacific Applied Geoscience Commission (SOPAC); Fiji Schools of Medicine and Public Health, the Pacific Basin Medical Association (PBMA) and PIHOA. One half of the workshop attendees were trained as "first responder" a basic, entry-level course for emergency medical care providers in the pre-hospital setting. The other half were public health and medical officials who learned

about and wrote the foundations for emergency health plans for each of their eleven respective public health jurisdictions.

Technical assistance

The SPC operates an informational network in the Pacific known as the Pacific Network (PACNET). This secure data network now includes users within 22 ministries of health of the Pacific basin. The system houses the Pacific Public Health Surveillance Network (PPHSN) and maintains components for laboratory and infectious disease surveillance, (LAB-NET and EPI-NET respectively). However, there is also a need to expand the surveillance to include the increasing burden of disease from non-infectious causes, namely environmental illnesses and injuries.

In February 2001, the SPC, the regional coordinative body for public health in the Pacific, proposed CDC partnership in developing a public health surveillance system for environmental emergencies and disasters. This network would be referred to as the Pacific Emergency Health Initiative Network (PEHI-NET). And, as a new component of the PPHSN, would add syndromes for environmental illnesses and emergencies to the existing public health surveillance system of the Pacific basin.

The center would promote the development of Pacific medical and public health systems and serve as an economical resource for training of trainers from throughout the Pacific basin.

In support of this effort, CDC initiated development of an internet-based secure data network specifically designed to support the PEHI-NET. This

network is password accessible and free of charge to Pacific island public health and medical officials. Information and communication services available on PEHI-NET will include: 1) PEHI website; 2) lecture and image library; 3) message board for postings involving emergency public health and disaster medicine; 4) videoconferencing and distance learning programming; 5) online chat-room for real-time emergency consultation among multiple participants worldwide; and 6) an electronic database for the PEHI vulnerability assessment.

In addition to the technical assistance offered by PEHI-NET, Pacific island nations may also make direct requests for CDC assistance. Requests may be directed to CDC through the US embassy or may be fielded directly to the CDC National Center for Environmental Health in Atlanta, USA. Technical assistance may take the form of pre-event public health assessments, guidance, planning and capacity building; or emergency consultation in rapid response to a disaster event.

Seeking International Support for Regional Sustainability
On February 22, 2001, CDC hosted a meeting of US federal agencies to discuss funding options for the CDC

PEHI project. DoI agreed to fund CDC PEHI assessments in Guam, the Commonwealth of Northern Marianas Islands and the Federated States of Micronesia. The HRSA Office of Engineering Services agreed to continue previous staff support of two engineers for PEHI vulnerability assessments. CDC also committed two health staff and over \$250,000 of seed money and in-kind support.

During July 2001, CDC, OPA and the US Department of Health and Human Services, Office of International and Refugee Health began an informational tour to seek international support for PEHI as an intermediate term regional development program. The group met with representatives from the Japan International Cooperation Agency, the Asia Development Bank, the US Office of Foreign Disaster Assistance, the United Nations Development Program and the United Nations Small Island Development Program.

Next steps

Vulnerability assessments

During June 2002, CDC and HRSA will complete PEHI vulnerability assessments in Guam and the Commonwealth of Northern Marianas Islands. CDC offers the PEHI vulnerability assessment to all Pacific island nations.

Training and education

In September 2002, CDC will also train six jurisdictions how to access and use the PEHI vulnerability assessment electronic database. Also in September and October 2002, CDC will provide over 100 hours of public health emergency

management training for PIHOA associated jurisdictions in support of the US bioterrorism preparedness and response cooperative agreement.

Negotiations are now under way that would further institutionalize the PEHI curriculum in the Pacific by offering accreditation that would be broadly recognized throughout all Pacific institutions for higher learning.

Technical assistance

During 2003, PEHI will provide ongoing technical assistance to U.S.-associated jurisdictions in support of the US bioterrorism preparedness and response cooperative agreement. Starting in September 2002, the PEHI-NET information and communication network will be made available to all Pacific island nations, free of charge.

References

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Stand not upon the order of your going
But go at once

William Shakespeare. 'Macbeth' Act 1 Scene 4